

What is claimed is:

1. An apparatus for monitoring the connection status of a connector, said apparatus comprising:
  - a first apparatus;
  - a second apparatus configured to be electrically and mechanically coupled to said first apparatus;
  - a mounting device located within said first apparatus; and
  - a probe configured to be mounted within said mounting device;wherein said probe is electrically coupled to said second apparatus when said first apparatus and said second apparatus are coupled and when said first apparatus and said second apparatus are separated, said probe disengages from said second apparatus to signal disconnection between said first apparatus and said second apparatus.
2. The apparatus as claimed in claim 1, further comprising a controller coupled to said probe, said controller being configured to provide power to said first apparatus and said second apparatus and disconnect power between said first apparatus and said second apparatus when said probe disengages from said second apparatus to signal disconnection between said first apparatus and said second apparatus.
3. The apparatus as claimed in claim 1, further comprising an insulator around said probe.
4. The apparatus as claimed in claim 1, wherein said first apparatus is an impedance match network and said second apparatus is a plasma source housing.
5. The apparatus as claimed in claim 1, wherein said first apparatus and said second apparatus are cables.
6. The apparatus as claimed in claim 1, further comprising a probe adapter configured to couple said probe to said mounting device.

7. The apparatus as claimed in claim 1, wherein said probe further includes a spring which is configured to force said probe to contact said second apparatus when said first apparatus and said second apparatus are coupled.

8. A method for safely separating radio-frequency connectors which supply radio-frequency energy between said connectors, said method comprising:

mounting a probe on a first apparatus, said first apparatus being electrically and mechanically couplable to a second apparatus;

coupling said probe electrically to a controller at one end and to said second apparatus at another end when said first apparatus and said second apparatus are coupled; and

completing an electrical circuit between said first apparatus and said second apparatus through said probe when said first apparatus and said second apparatus are connected;

wherein when said first apparatus and said second apparatus are separated, said probe disengages from said second apparatus to break said electrical circuit and cause the supply of radio-frequency energy to be de-energized.

9. The method as claimed in claim 7, wherein said first apparatus is an impedance match network and said second apparatus is a plasma source housing.

10. The method as claimed in claim 7, wherein said first apparatus and said second apparatus are cables.

11. The method as claimed in claim 7, further comprising configuring a probe adapter to couple said probe to said mounting device.

12. The apparatus as claimed in claim 7, further comprising:  
attaching a spring to said probe, said spring being configured to force said probe to contact said second apparatus when said first apparatus and said second apparatus are coupled.

13. A method for signaling disconnection between a first apparatus and a second apparatus, said method comprising:

mounting a probe on said first apparatus, said first apparatus being electrically and mechanically couplable to said second apparatus;

coupling said probe electrically to said second apparatus when said first apparatus and said second apparatus are coupled;

completing an electrical circuit between said first apparatus and said second apparatus through said probe when said first apparatus and said second apparatus are connected; and

detecting when said electrical circuit is broken to signal disconnection of said first apparatus from said second apparatus.

14. The method as claimed in claim 13, further comprising causing a supply of energy between said first apparatus and said second apparatus to be de-energized upon detecting that said electrical circuit is broken.

15. A method for using a probe to monitor disconnection between a first apparatus and a second apparatus, said probe being mounted on said first apparatus, said method comprising:

coupling said probe electrically to said second apparatus when said first apparatus and said second apparatus are coupled;

completing an electrical circuit between said first apparatus and said second apparatus through said probe when said first apparatus and said second apparatus are connected; and

detecting when said probe disengages from said second apparatus to break said electrical circuit.

16. The method as claimed in claim 15, further comprising causing a supply of energy between said first apparatus and said second apparatus to be de-energized upon detecting that said electrical circuit is broken.